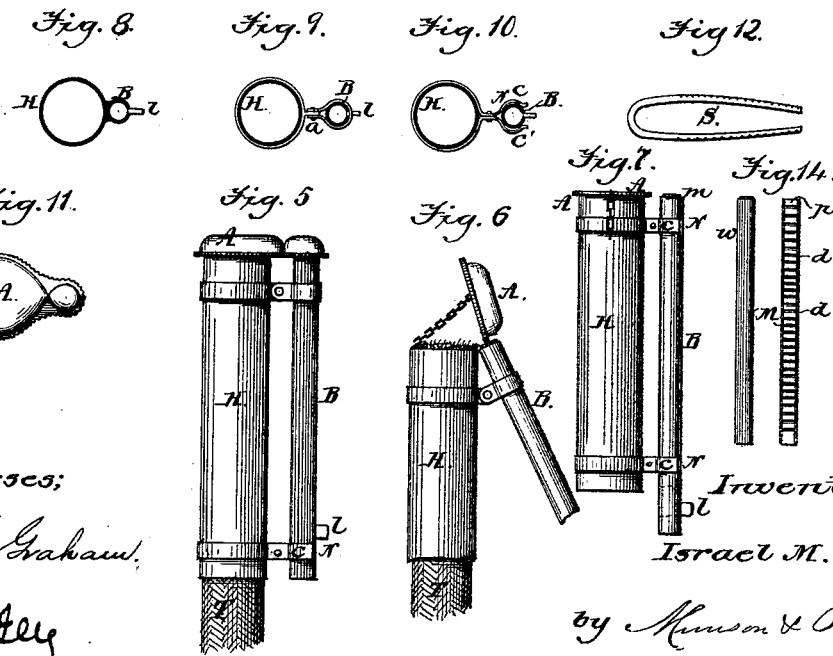
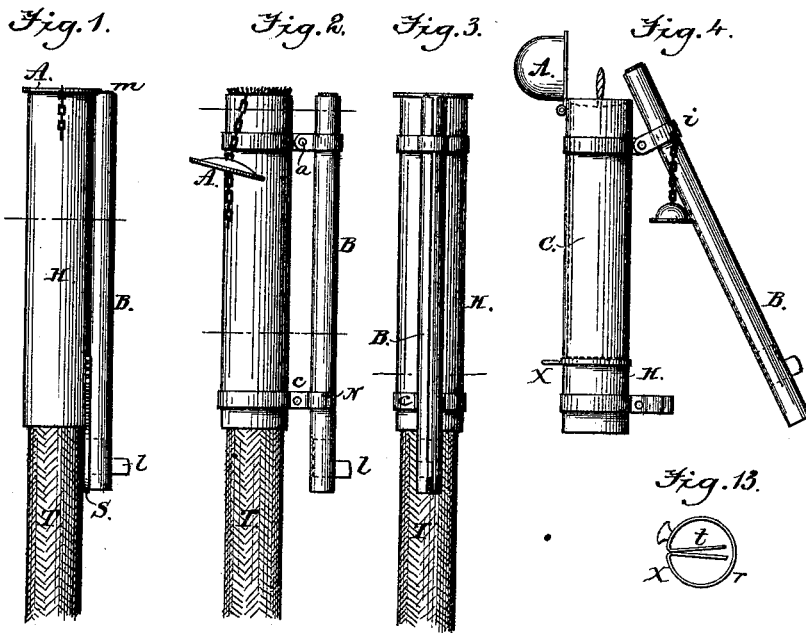


I. M. ROSE.
Lighting Device.

No. 196,706.

Patented Oct. 30, 1877.



Witnesses;

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UNITED STATES PATENT OFFICE.

ISRAEL M. ROSE, OF GREEN POINT, NEW YORK.

IMPROVEMENT IN LIGHTING DEVICES.

Specification forming part of Letters Patent No. **196,706**, dated October 30, 1877; application filed October 26, 1877.

To all whom it may concern:

Be it known that I, ISRAEL M. ROSE, of the city of Green Point, in the county of Kings and State of New York, have invented an Improvement in Lighting Devices, of which the following is a specification:

This invention relates to that class of lighting devices which are provided with a receptacle for the material to be consumed, and with means for igniting the same; and it consists in a peculiar construction of the instrument, as well as of its component parts, all of which will be particularly hereinafter explained.

Several embodiments of the invention are illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation of one form; Figs. 2, 3, 4, 5, 6, and 7, similar views of the device modified in some of its details of construction; Figs. 8, 9, and 10, views taken on the section-lines of Figs. 1, 2, and 3; Fig. 11, a plan view of one form of cap or cover; Fig. 12, a view of one form of striker; Fig. 13, a view of the candle-support; Fig. 14, plan and sectional views of the magazine.

The holder H, for the tinder, wick, candle, or similar material which is to be ignited, for use in lighting cigars or illuminating purposes, is shown as an open-ended tube; but it may, obviously, be of any convenient form which will serve the purpose of holding a quantity of tinder strip or wick, T, candle C, or other like material, and permit its protrusion from the top of the holder, as its use may demand. This holder is covered by a cap, A, which, adapted to fit over or into its top end, or into or over the top ends of both the holder H and case B, may be attached by a chain to the side of the holder H, be hinged thereto, as in Fig. 4, or be separate and removable, as in Figs. 5, 12. This chain may also be attached to the tinder strip or wick, to aid in protruding the same, as in Figs. 1, 2, 7; and if a candle be used, as in Fig. 4, it may be protruded by a sliding support, X, as in Fig. 15, which support X is made of a wire bent to form a hoop, *r*, encircling the holder H, and a tang, *t*, to pass through a slit in the side of the holder and underlie the candle. This holder H is furnished, at some convenient part thereof, with means for supporting a magazine, M.

This magazine consists, primarily, of a series of superposed combustible pellets, *p*, which are capable of ignition by friction, and they may be made of any composition of material which comprises this quality. These pellets *p* are arranged one above the other, as in Fig. 14, in which position they may be sustained, so as to be capable of handling and manipulation, by means of a wrapper, *w*, of paper, composition, glue, or other envelope which will support them and yet permit the uppermost end of the magazine, or the top pellet therein, to be ignited and burn without igniting the rest of the same or otherwise destroying it. For some purposes such magazine may be composed of a continuous strip of the composition, so covered or enveloped that when its end is ignited but a small portion thereof will be consumed, the said covering or envelope *w* (made of a material not readily consumable) preventing a sufficient supply of air to promote combustion of the composition to any considerable extent into its end. But this effect is best produced by making the composition into the form of pellets, and coating them with glue, gum-arabic, or similar material not readily consumable, or by interposing between each pellet a disk, *d*, of thick paper, wood, metal, or similar insulator.

Such a magazine may be inserted into a case, as B, which is attached to the holder H in such manner that the end of the magazine may be adjusted near to or over the mouth of said holder; or it may be otherwise attached to the holder, as will be explained.

When the case B is adopted, it may be rigidly attached to the holder H, as in Fig. 1, where it is represented as formed of a tube split at its side, as in Fig. 3, to receive a lifting device, as *l*. The mouth *m* of this case is supported in close contact with that of the holder H, and when the composition in the magazine is ignited its flame will readily communicate with the tinder strip or wick T, and ignite that also. This case may be supported on the holder by a hinge-joint, as *a*, which is formed by a rivet passing through ears projecting from bands placed around both the holder H and the case B. In this form the case B is supported at its lower end by a clamp or holder, N, which is composed of two

arms, *c*, projecting on opposite sides of the said case, as in Figs. 3, 4, 10. This construction is a convenient one, since when the magazine end is ignited it may be swung, as in Fig. 4, into a position over the mouth of the holder *H*, and, of course, close to the substance to be ignited. This magazine *M* may, however, be held in place upon the holder *H* without the aid of the case *B*. Thus the said holder might be supplied with two sets of holders *N*, as in Fig. 8, which arms may be shaped as in Fig. 10, to form springs, which serve not only to hold the magazine in place, but provide for its vertical adjustment therein; and if the upper set of spring-arms are attached to the holder by a hinged joint, as *a* in Fig. 2, then said magazine could be swung into the position, Figs. 4, 7, to more perfectly operate in igniting the contents of the holder *H*. In the form, Fig. 4, the band *i* fills the case *B*, so that it may slide frictionally therein.

The mode of operating this instrument is to ignite the top end of the magazine by friction, whereupon the flame or fire produced by its combustion will be communicated to the tinder strip, wick, or candle in the holder. This operation may be effected in various ways.

In Fig. 1, where the instrument is provided with a case, *B*, fixed rigidly to the holder *H*, the magazine *M*, which has been inserted through the top of the same, is protruded therefrom by means of the lifting device *l*, and the tinder strip or wick is protruded from the holder *H* a proper distance. Thus adjusted, the composition in the magazine *M* may be ignited by frictional contact with any hard surface or material. But to facilitate its manipulation, the implement is provided with a striker, *S*, which is a strip of wire bent into the form shown in Fig. 13, so as to be clamped upon the holder *H*, as in Fig. 1. The surfaces of this striker are roughened, so that when it is forcibly drawn across the end of the magazine it will ignite the same by its frictional contact. This striker may, of course, be applied to any of the constructions shown in Figs. 2, 3, and 4, where the case *B* is capable of swinging, for the purpose described, or to the form shown in Fig. 8, where the magazine *M*, whether in a case, as *B*, or naked, is held upon the holder *H* by the spring-arms *c*, so that it may be removed for ignition. The cap or cover *A* may in itself afford the means for igniting the magazine by serrating or otherwise roughening its

edges, as in Figs. 5 and 7, the latter showing this use of it as a striker.

When the end of or the uppermost pellet in the magazine has been consumed after igniting the tinder, wick, or candle in the holder *H*, and it is desired to repeat the process, the burned end, or that portion of the covering or envelope of the magazine which protrudes beyond the composition contained in it, is removed by breaking off the same, whereby a new pellet or unconsumed end of the composition will be exposed to be operated upon, as before.

I am aware that explosive pellets have been before used in connection with wicks in lighting devices, and I therefore make no claim, broadly, to the same.

What is claimed is—

1. A lighting-instrument composed of a tinder strip, wick, or candle holder, *H*, and having a magazine-holder connected therewith, substantially as described, so that the exposed end of the magazine may be ignited by passing it over any convenient roughened surface.

2. The combination, with the holder *H*, provided with a magazine-holder, of the closing cap or cover *A*, having a roughened surface, substantially as described.

3. A magazine for the purpose described, composed of a series of superposed pellets of combustible composition, capable of ignition by friction, and inclosed in a wrapper or envelope of such material as may be destroyed as said pellets are burned, substantially as described.

4. A magazine for the purpose described, composed of a series of superposed pellets of combustible composition, capable of ignition by friction, coated with glue, gum-arabic, or other suitable material, and inclosed in a wrapper or envelope of such material as may be destroyed as said pellets are burned, substantially as described.

5. The magazine composed of a series of superposed pellets of combustible composition, when said pellets are separated by isolating-disks, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

I. M. ROSE.

Witnesses:

H. T. MUNSON,
GEO. H. GRAHAM.